AMERICAN SOCIETY FOR TESTING MATERIALS

BULLETIN

ENGINEERS' CLUB BUILDING. 1315 SPRUCE ST. PHILADELPHIA, PA

NUMBER 18 JULY 31, 1925

The Twenty-eighth Annual Meeting

Each year, it would seem, makes it possible for us to record the events of an annual meeting that surpasses in at least some of its features all preceding annual meetings. The Twenty-eighth Annual Meeting of the Society, held at Chalfonte-Haddon Hall, Atlantic City, N. J., June 23 to 26, 1925, was no exception. The sessions, ten in number, were full of valuable contributions. Corrosion, research, fatigue of metals, strength of metals at high temperatures, studies of the stability of bituminous mixtures and the requirements of cement came in for special attention. The attendance was larger than at any previous meeting, the total attendance being 1118 as compared with the total of 1068 in 1924. There were 775 members in attendance or represented, 93 guests and 250 ladies. The ten sessions included three pairs of simultaneous sessions, thus leaving the afternoons free for recreation and the holding of meetings of committees and sub-committees, of which there were 115. The simultaneous sessions were all held in the morning, the Society meeting in one group each evening. The opening session was held on Tuesday evening, June 23, the closing session on Friday evening, June 26. The Wednesday evening session was devoted to the presentation of the Presidential Address and reports of administrative committees, and the induction into office of the newly elected officers. Presentation of reports on research, methods of testing and nomenclature and a discussion of the value of purchase specifications were sufficient justification for devoting the entire evening session to their consideration on Thursday.

Presidential Address

The President, F. M. Farmer, was introduced by the presiding officer, Past-President G. H. Clamer. He chose for the topic of his address the Promotion of Knowledge of Engineering Materials, in which he stressed the means whereby the Society might increase its usefulness. He suggested three directions in which the knowledge of materials might be promoted: (1) the promotion through research, (2) promotion through publication of new knowledge and (3) promotion through greater use of existing knowledge. In this latter connection he stated that "one of the most effective agencies for promotion of knowledge is publicity and we should use all dignified means to advertise our work to industry and to the public, not for the purpose of exploiting the Society as such but to make the results of the large amount of time and energy expended in our activities known to a wider circle and thus increase their usefulness."

The President estimated the cost of carrying on the work of the Society to be perhaps $300,000 to $325,000 per year, a very reasonable figure considering that we have over forty committees actively functioning and devoting over 6000 men-days to our work. The value of the annual business done by the industries receiving the benefit of this work is of the order of thirty to thirty-five billions of dollars. The President put forth the opinion that we should have a greater annual income if our present expenditures are to be made more effective and the Society more useful to industry. He mentioned as one means of securing additional income the establishment of a special class of membership wherein the dues would not be limited to $15 per year. Such a class of membership, known as sustaining members, would be expected to be availed of principally by industrial and commercial organizations.

Announcement of Election of Officers

A canvass of the ballot for officers showed that 779 legal ballots had been cast and that the following officers had been elected:

For President, to serve for one year, W. H. Fulweiler, Chemical Engineer, United Gas Improvement Co., Philadelphia.

For Vice-President, to serve for two years, H. F. Moore, Professor of Engineering Materials, University of Illinois, Urbana, Ill.

For Membership on Executive Committee, to serve for two years:

Louis Anderson, Jr., Chemical Engineer and Chief Chemist, Alpha Portland Cement Co., Easton, Pa.

E. F. Kenney, Metallurgical Engineer, Bethlehem Steel Co., Inc., Bethlehem, Pa.

T. D. Lynch, Manager, Materials and Process Engineering Department, Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.

K. G. Mackenzie, Consulting Chemist, The Texas Co., 17 Battery Place, New York City.

The newly elected President, after being introduced to the meeting, expressed his appreciation of the honor of serving as President and in a few well-chosen words appealed to the members for their cooperation in carrying on the duties connected with the office. The newly elected Vice-President, after acknowledging the honor of his election, expressed the hope that he might have an opportunity to participate in

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A.S.T.M. BULLETIN

Issued Quarterly by the
AMERICAN SOCIETY FOR TESTING MATERIALS
Engineers' Club Building, 1315 Spruce St., Philadelphia, Pa.

President
W. H. FULWEILER
(1925–1926)

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H. F. MOORE (Term Expiring in 1927)

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(Term Expiring in 1927)
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T. D. LYNCH
K. G. MACKENZIE

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GUILLIAEM AERTSEN (Term Expiring in 1927)
F. M. FARMER (Term Expiring in 1928)

Assistant Treasurer
J. K. RITTENHOUSE

Assistant Secretary
R. E. HESS

Number 18 July 31, 1925

Society Progress

The annual meetings of the Society furnish a measuring stick of progress year by year and the recent meeting concludes a record of inspiring accomplishment and growth for the year just ending.

First, the annual meeting itself showed the highest attendance record in our history. The activities of our committees along the lines of investigation and research occupied a prominent place and in fact the whole meeting reflected the trend towards more intensified efforts in promoting the knowledge of materials.

At the same time, marked progress was made in our standardization activities. Several new committees made an inspiring record for their first year's activity. The number of standards and tentative standards is steadily increasing, being now 458, whereas five years ago this total was about 250.

The same five years have witnessed a remarkably steady growth in membership from 2750 to 3780, a growth of nearly 40 per cent. New members have joined in large numbers this year. In view of the constantly increasing activities of the Society, membership in it becomes a greater asset every year and each member is asked to lose no opportunity of impressing that fact upon those of his friends and acquaintances who should belong, but do not.

Many problems come in the train of growth and development of the Society, and these are being given careful study by the Executive Committee. Foremost among them are the means by which the greater usefulness of all of the Society's work may be brought about, and the means of securing increased financial support of our work. Both of these matters were discussed in the Executive Committee's annual report.

Society Appointments

T. G. Delbridge, L. H. Fry and W. D. Lober have been appointed to serve for three years on Committee E-6 on Papers and Publications to succeed Richard L. Humphrey, H. E. Smith and A. A. Stevenson.

F. M. Farmer and H. F. Moore have been designated representatives of the Society on the National Research Council, Division of Engineering and Industrial Research.

E. A. Snyder has been appointed to represent the Society on the United States National Committee of the International Electro-Technical Commission.

The Twenty-Eighth Annual Meeting

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carrying out some of the plans put forward for advancing the work of the Society.

Action on Proposed Standards

Reports were presented by thirty-four of the forty-three standing committees in addition to the annual report of the Executive Committee. On the recommendation of these committees, revisions in twenty-seven standards of the Society were accepted for publication as tentative. Two revisions of standards by nine-tenths vote of the meeting were referred to letter ballot of the Society for adoption as standard immediately. Thirty-six tentative standards were referred to letter ballot for adoption as standard and forty-five new standards were accepted for publication as tentative. The titles of the tentative standards are given on pages three and four. In addition, recommended revisions were approved in thirty-seven existing tentative standards. They cover such groups of specifications as wrought iron, non-ferrous metals, lime, concrete, petroleum products, road materials, insulating materials and textiles. Of these, three are complete rewritings of former tentative standards. Two tentative standards were withdrawn. Should these several recommendations, referred to letter ballot, be approved, the standards of the Society will number 254 and the tentative standards 194.

The actions taken at the meeting with respect to committee reports are set forth in detail in the accompanying Summary of the Proceedings.

Dudley Medal and Marburg Lecture Established

The establishment of the Charles B. Dudley Medal and the Edgar Marburg Lecture, suggested by Committee E-9 on Correlation of Research, as discussed in BULLETIN No. 17, was recommended by the Executive Committee. This proposal met with the hearty approval of the members assembled. The establishment of this medal and lecture will entail the raising of a fund of $6000. The methods for raising this fund will be worked out in the near future and will be reported upon in due course. The members of the Executive Committee have already headed the subscription list to the extent of $390.

Technical Papers

The papers presented proved to be of very timely interest and a number of them provoked a considerable amount of discussion. This was especially true of the papers dealing with corrosion, endurance properties of metals and the properties of metals at high temperatures, so far as the field of metals is concerned, and the discussion on stability of bituminous paving mixtures and the requirements for portland cement, in the non-metals field. One of the papers dealing with effect of temperature on metals, namely the paper by T. D. Lynch, P. J. McVetty and N. L. Mochel entitled "Tensile Properties of Metals at High Temperature Showing Effect of Stress and Time" had been added to the program since the Provisional Program had been printed. A paper by J. K. Wood entitled "Materials Used in High Pressure and Superheated Steam Pipe Line Valves," on the other hand, had been withdrawn. These were the only changes in the program with the exception of the withdrawal of the report of Committee C-4, mention of which was made in the Circular to Members of May 29.

Entertainment Features

No account of the meeting would be complete without some mention of at least the principal entertainment features arranged by the capable Entertainment Committee under

the chairmanship of Mr. W. M. Corse. The annual dance held on Wednesday evening immediately after the general session retained its accustomed popularity.

Mr. Carveth Wells in a lecture entitled "My Six Years in the Jungles of Malay" on Wednesday afternoon, entertained a skeptical but interested audience with his experiences in Malay while surveying for a railroad in the jungles.

The Golf Tournament, held on Friday afternoon at the Seaview Golf Club together with the Tennis Tournament, was bigger than ever, having 61 entries. The prizes in the tournaments were furnished by a number of the standing committees. The A.S.T.M. championship golf cup and medal for the low score were won by E. W. McMullen of Kenosha, Wisconsin. The A.S.T.M. championship tennis cup and medal were won by R. J. Shoemaker of Chicago, Ill.

Other prize winners were: W. B. Price, Herbert Spencer, J. E. Lockwood, D. W. Mulford, J. G. Detwiler, C. T. Ripley, A. Orr, E. D. Boyer, H. W. Bates, M. H. Ulman, H. S. Mattimore, R. H. Catlett, and R. P. Anderson.

Contributions to Discussion Will Still be Received

Written discussion of the papers and reports presented at the recent annual meeting may be sent in to the Committee on Papers and Publications until September 1. Discussions received after that date may not be included in the PROCEEDINGS. Chairmen of committees and authors of papers will have an opportunity of reviewing these discussions and preparing closures should they so desire.

Fall Committee Week to be in Mid-West

Our committees are enthusiastically supporting the group meeting plan, and arrangements for such a meeting during the latter part of October, probably either in Cleveland or Chicago, are now being discussed with a number of the committees. It seems probable that a single group meeting, involving both the metals and non-metals committees, can be successfully worked out. Further announcements will be mailed to the members of the committees participating.

Matters Referred to Letter Ballot

By action of the annual meeting, two revisions of existing standards and thirty-five tentative standards were referred to letter ballot vote of the membership of the Society for adoption. In addition a proposed standard was referred to letter ballot for adoption without its first being published as tentative. Full information concerning all matters referred to letter ballot is given in the preprints of the committee reports issued to the members in advance of the meeting, in the account of the annual meeting appearing in this BULLETIN and in the Summary of the Proceedings.

Proposed revisions of the following two standard methods of test were referred to letter ballot for adoption as standard:

Standard Method of Test for Penetration of Bituminous Materials (D 5 – 21).

Standard Methods of Test for Specific Gravity of Sand, Stone and Slag Screenings and Other Fine Non-Bituminous Highway Materials (D 55 – 24).

Thirty-six proposed or tentative standards were referred to letter ballot as follows:

Tentative Specifications for:

Round and Grooved Hard-Drawn Copper Trolley Wire (B 47 – 23 T), revised as recommended by Committee B-1.

Seamless 70-30 Brass Condenser Tubes and Ferrule Stock (B 55 – 24 T), recommended by Committee B-2.

Seamless Muntz Metal Condenser Tubes and Ferrule Stock (B 56 – 24 T), recommended by Committee B-2.

Quicklime and Hydrated Lime for Use in the Cooking of Rags (C 45 – 24 T), recommended by Committee C-7.

Gypsum (C 22 – 24 T), revised as recommended by Committee C-11.

Gypsum Plastering Sand (C 35 – 24 T), revised as recommended by Committee C-11.

Gypsum Wall Board (C 36 – 24 T), revised as recommended by Committee C-11.

Gypsum Plaster Board (C 37 – 22 T), revised as recommended by Committee C-11.

Gypsum Partition Tile or Block (C 52 – 24 T), revised as recommended by Committee C-11.

Asphalt for Use in Waterproofing Below Ground Level (D 40 – 24 T), recommended by Committee D-8.

Asphalt for Use in Damp-proofing and Waterproofing Above Ground Level (D 144 – 24 T), recommended by Committee D-8.

Primer for Use with Asphalt in Damp-proofing and Waterproofing Below and Above Ground Level (D 41 – 22 T), recommended by Committee D-8.

High-Carbon Coal-Tar Pitch for Use in Damp-proofing and Waterproofing Below Ground Level (D 42 – 24 T), recommended by Committee D-8.

High-Carbon Coal-Tar Pitch for Use in Damp-proofing and Waterproofing Above Ground Level (D 145 – 24 T), recommended by Committee D-8.

High-Bitumen Coal-Tar Pitch for Use in Damp-proofing and Waterproofing Below Ground Level (D 200 – 24 T), recommended by Committee D-8.

High-Bitumen Coal-Tar Pitch for Use in Damp-proofing and Waterproofing Above Ground Level (D 201 – 24 T), recommended by Committee D-8.

Creosote Oil for Priming Coat with Coal-Tar Pitch in Damp-proofing and Waterproofing Below and Above Ground Level (D 43 – 22 T), recommended by Committee D-8.

Asphalt Mastic for Use in Waterproofing (D 169 – 24 T), recommended by Committee D-8.

Bituminous Grout for Use in Waterproofing Above Ground Level (D 170 – 24 T), recommended by Committee D-8.

Bituminous Grout for Use in Waterproofing Below Ground Level (D 171 – 24 T), recommended by Committee D-8.

Woven Cotton Fabrics Saturated with Bituminous Substances for Use in Waterproofing (D 173 – 23 T), revised as recommended by Committee D-8.

Burlap Saturated with Bituminous Substances for Use in Waterproofing (D 174 – 23 T), revised as recommended by Committee D-8.

Imperfections and Tolerances for Square-Woven Tire Fabrics (D 122 – 23 T), revised as recommended by Committee D-13.

Imperfections and Tolerances for Cord Tire Fabrics (D 179 – 23 T), revised as recommended by Committee D-13.

Tolerances for Hose Ducks and Belt Ducks (D 181 – 24 T), revised as recommended by Committee D-13.

Tolerances and Test Methods for Electrical Yarns (D 203 – 24 T), revised as recommended by Committee D-13.

Specifications and Tests for Osnaburg Cement Sacks (D 205 – 24 T), revised as recommended by Committee D-13.

A.S.T.M. Partial-Immersion Thermometer for General Use, −20 to +150° C., 0 to +300° F. (D 182 – 23 T), revised as recommended by Committee D-15.

A.S.T.M. Partial-Immersion Thermometer for General Use, −5 to +300° C., +20 to +580° F. (D 183 – 23 T), revised as recommended by Committee D-15.

A.S.T.M. Partial-Immersion Thermometer for General Use −5 to +400° C., +20 to +760° F. (D 184 – 23 T), revised as recommended by Committee D-15.

Tentative Methods of:

Making Compression Tests of Concrete (C 39 – 21 T), recommended by Committee C-9.

Testing Oleo-Resinous Varnishes (D 154 – 24 T), recommended by Committee D-1.

Test for Determination of Wax in Shellac (D 29 – 24 T), revised as recommended by Committee D-1.

Routine Analysis of Titanium Pigments (D 186 – 24 T), recommended by Committee D-1.

Sampling Bituminous Materials (D 140 – 23 T), recommended by Committee D-4.

Proposed Volume Correction Table for Petroleum Oils, recommended by Committee D-2 for adoption without publication as tentative.

A blank ballot with return envelope for the vote on these thirty-eight items is enclosed with this BULLETIN to all members in good standing. **The ballot will be canvassed on August 28, 1925.**

New Tentative Standards

Forty-five new tentative standards, including specifications, methods of test, definitions and recommended practice were accepted for publication:

Metals:
- Specifications for Carbon-Steel Car and Tender Axles.
- Specifications for Structural Silicon Steel.
- Specifications for Carbon-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service.
- Specifications for Alloy-Steel Bolting Material for High-Temperature Service.
- Specifications for Tungsten Powder.
- Specifications for Spiegeleisen.
- Specifications for Ferro-Silicon.
- Specifications for Ferro-Chromium.
- Specifications for Ferro-Manganese.
- Specifications for Ferro-Vanadium.
- Methods of Sampling Ferro-Alloys.
- Methods of Chemical Analysis of Ferro-Alloys.
- Recommended Practice for Carburizing and Heat Treatment of Carburized Objects.
- Recommended Practice for Thermal Analysis of Steel.
- Specifications for Bronze Trolley Wire.
- Specifications for Muntz Metal Condenser Tube Plates.

Paints and Oils:
- Specifications for Dry Bleached Shellac.
- Specifications for Lithopone.
- Specifications for Lampblack.
- Specifications for Bone Black.
- Specifications for Pure Chrome Green.
- Specifications for Reduced Chrome Green.
- Methods of Testing Shellac Varnish.
- Methods of Routine Analysis of White Linseed Oil Paints.
- Method of Test for Distillation of Natural Gas Gasoline.
- Method of Test for Penetration of Greases.
- Method of Test for Color Determination of Petrolatum.
- Method of Test for Burning Quality of Long-Time Burning Oil.
- Method of Test for Neutralization Number of Oils.

Road Materials:
- Method of Test for Determining the Moisture Equivalent of Subgrade Soils in the Field.

Slate:
- Method of Test for Water Absorption of Slate.
- Methods of Flexure Testing of Slate.

Waterproofing Materials:
- Specifications for Acid-Resisting Asphalt Mastic.
- Specifications for Smooth-Surfaced Asphalt Roll-Roofing.
- Specifications for Slate-Surfaced Asphalt Roll-Roofing and Slate-Surfaced Asphalt Shingles.
- Specifications for Asphalt-Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs.
- Specifications for Coal-Tar Saturated Roofing Felt for Use in Waterproofing and in Constructing Built-Up Roofs.
- Methods of Testing Asphalt Roll-Roofing and Shingles.

Insulating Materials:
- Methods of Testing Laminated Sheet Insulating Materials.

Textile Materials:
- Specifications for Tolerances for Numbered Cotton Duck.
- Specifications for Tolerances and Test Methods for Knit Goods.
- Methods of Testing Grease Wool for Scoured Content.

Methods of Testing:
- Specifications for Sieves for Testing Purposes.
- Definitions of Terms Relating to Specific Gravity.
- Definition of the Term Screen (Sieve).

Textile Committee to Meet in the South

The fall meeting of Committee D-13 on Textile Materials will be held at Greenville, S. C., the meeting to be held during the first week in October. It represents one of the few times that any committee of the Society has met farther south than Washington, D. C. The committee expects to be well repaid for making this move in the increased interest in the work of the committee which may be created among the southern manufacturers. The location allows for arrangements for visiting mills, cotton fields, etc., and is most easily accessible to guests from every part of the South.

Forthcoming Society Publications

A.S.T.M. Standards Adopted in 1925.—As the first supplement to the 1924 Book of A.S.T.M. Standards, a pamphlet comprising approximately 120 pages will be issued, containing the 34 standards referred to letter ballot by action of the recent meeting. The pamphlet will also contain four revisions of existing standards, two of these being of the nature of additions. The pamphlet should be ready for distribution to members in good standing about September 10.

Year Book.—The 1925 Year Book, about 350 pages, containing the charter and by-laws, the list of members with geographical distribution, the list of standards and tentative standards, and personnel of standing committees and of subcommittees is now in course of preparation. This volume will be ready for distribution to all members in good standing about September 10.

Book of A.S.T.M. Tentative Standards.—Following the custom of the past few years, the Society will issue a volume containing all of the tentative standards of the Society in their latest revised form. Although the current PROCEEDINGS contain the new and revised tentative standards, many members find it a convenience to have complete all tentative standards in one cover. The value and popularity of the volume is shown by the ever-increasing demand. Further announcements of this publication will be made and orders solicited in a letter to be sent out in September.

Proceedings.—The publication of the PROCEEDINGS of the recent annual meeting containing committee reports, new and revised standards, technical papers and discussions, will be taken in hand as promptly as possible. It is confidently expected that distribution to all members in good standing may be completed early in December.

Annual Tables of Constants

The Annual Tables of Constants and Numerical Data, Physical, Chemical and Technological, are published by the International Commission under the authority of the International Research Council and the International Union of Pure and Applied Chemistry. The Society contributes annually to its support and the present announcement is made by virtue of an agreement with the Commission.

The tables are intended for conserving the time of biologists, chemists, physical chemists, physicists, engineers, etc., and are the result of a systematic search by the collaborators of the Committee of the world's literature since 1910.

If you already know the Annual Tables, make them known to your friends; you will render them a great service.

If you do not know them, write at once to

Dr. Ch. Marie, Secrétaire Général du Comité,
9 Rue de Bagneux, Paris, 6eme

A free specimen copy of one of the following sections may be secured: SPECTROSCOPY, ELECTRICITY, MAGNETISM, MINERALOGY, BIOLOGY, ENGINEERING, METALLURGY, COLLOIDS, ELECTROCHEMISTRY, RADIOACTIVITY, CRYSTALLOGRAPHY.

Volumes Published:
- Volumes I, II, III, IV (Data for 1910–1916).
- In the press: Volume V (Data for 1917–1922).
- In preparation: Volume VI (Data for 1923).
- In process of compilation: Volume VII (Data for 1924).

All volumes are kept in stock by the Chicago University Press, Chicago, Ill. Price lists and descriptive material may be secured upon application.

The prices for the Annual Tables given on the announcement sheet accompanying the 1924 PROCEEDINGS were in error as regards the prices of Volumes I, II, III, and IV. The correct schedule is as follows:

	List Prices		To Members of the A.S.T.M.	
	Cloth	Paper	Cloth	Paper
Volumes I, II, III, together...	$18	...	$18	...
Volume IV alone.....	25	$22	25	$22
Volume V.....	25	22	19	16

Volumes I, II, III are only sold with Volume IV.